DEVELOPING COAL-FIRED GENERATION: A LEGAL PERSPECTIVE

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Kwok Yan has extensive experience in advising on the structuring, development and construction of major infrastructure and other projects in Malaysia in the private power generation, sewerage services and maritime defense sectors.

Qualifications

- Bachelor of Laws (Honours), Queen Mary & Westfield College, University of London
- Barrister-at-Law, Lincoln's Inn
- Advocate and Solicitor of the High Court of Malaya

Areas Of Expertise

- Private power generation

Industry Sectors

- Energy and Utilities

Non-Practice Engagements

- Presented paper on “Access to Energy Infrastructure Assets in Malaysia” at 10th LAWASIA Energy Law International Conference in Xi’an, PRC in May 2001.

Relevant Engagements

- Advised on Private Power Generation Projects in respect of :
  - 2,420MW multi-fuel power plant in Selangor
  - 2,100MW coal fired power plant in Perak
  - 2,100MW coal fired power plant in Kedah
  - 650MW gas fired combined cycle power plant in Perlis
  - 450MW gas fired combined cycle plant in Kedah
  - 220MW expansion to an existing 440MW power plant in Negeri Sembilan
  - 48MW dedicated combined heat and power plant for a newsprint mill in Pahang
  - 650MW combined cycle independent power plant in Tamil Nadu, India
  - 1,400MW coal fired power plant in Negeri Sembilan
  - 710MW gas fired combined cycle power plant in Selangor
  - 350MW gas fired open cycle power plant in Prai
- Advised on Maritime defence projects including:
  - Patrol Vessels Project
  - Accommodation Modules
- Advised on sewerage services and concessional issues on national concession for sewerage services
- Visiting counsel in General Electric (Power Systems and Plastics), Singapore for 6 months from June-November 1999

DEVELOPING COAL-FIRED GENERATION : A LEGAL PERSPECTIVE

ABSTRACT

The legal perspective of development of coal-fired generation encompasses the consideration of a complex matrix of legal issues which permeate the development of coal-fired generation.

A package of project documents, consisting of the power purchase, engineering, procurement and construction, operation and maintenance, coal supply, water supply, alternative fuel supply and shareholders agreements, address most of such legal issues and document the relationships, rights, obligations and liabilities of the various parties contributing to the development of coal-fired generation.

The main objective of this package of documents is to allocate responsibilities and risks involved in the development of coal-fired generation to the parties best able to perform such responsibilities and manage such risks, coupled with the distribution of the accompanying rewards.

DEREGULATION IN MALAYSIA

CURRENT STRUCTURE OF THE ELECTRICITY SUPPLY INDUSTRY IN MALAYSIA

The electricity supply utilities in Malaysia have been transformed from state-owned entities to investor-owned utilities through the privatisation process which commenced in 1990. At present, there are 3 main electricity utilities operating in the three geographical regions of Malaysia, namely Tenaga Nasional Berhad ("TNB") in Peninsular Malaysia, Sabah Electricity Sdn Bhd ("SESB") in the State of Sabah and Sarawak Electricity Supply Corporation ("SESCO") in the State of Sarawak. The major shareholder of TNB is the Government of Malaysia, the major shareholder of SESCO is the State Government of Sarawak while SESB is a subsidiary of TNB.

All the three utilities are basically vertically integrated except that the generation facilities of TNB have been leased to its wholly owned subsidiary, TNB Generation Sdn Bhd, for operation and selling back of electrical energy generated to TNB.

Besides the 3 state-owned utilities, there are currently 6 independent power producers ("IPPs") operating in Peninsular Malaysia, 5 in Sabah and 2 in Sarawak.

The 6 IPPs operating in Peninsular Malaysia contribute approximately 4,449MW (34%) of the total grid connected capacity of 12,975MW in the Peninsula and the 5 IPPs in Sabah contribute 305MW (39%) out of the total 777MW installed capacity in Sabah while the 2 IPPs in Sarawak contribute 318MW (36%) of the installed capacity of 872MW in the state. The balance of the grid connected capacity is provided by TNB, SESB and SESCO respectively.

The Government has been considering restructuring the electricity supply industry aiming at improving efficiency, providing greater transparency and promoting competition. Various proposals and models are under consideration which include implementing a new set of legislation and regulatory framework and setting up an independent agency to operate the grid system. The restructuring of the electricity supply industry is likely to adopt a gradual approach in introducing a market mechanism to attract investments as well as ensure an adequate and reliable supply of electricity.

An Energy Commission has been established pursuant to the Energy Commission Act, 2001 as the regulatory body for the electricity and gas supply industries. The functions of the Energy Commission includes:

- advising the Minister on all matters concerning the national policy objectives for energy supply activities;
- advising the Minister on all matters relating to the generation, production, transmission, distribution, supply and use of electricity;
- implementing and enforcing the energy supply laws;
- regulating all matters relating to the electricity supply industry;
- promoting efficiency, economy and safety in the generation, production, transmission, distribution, supply and use of electricity;
- promoting and safeguarding competition and fair and efficient market conduct or, in the absence of a competitive market, preventing the misuse of monopoly or market

power in respect of generation, production, transmission, distribution and supply of electricity;

- encouraging and promoting self-regulation in the electricity supply industry;
- reviewing the energy supply laws and making the necessary recommendations to the Minister.

COAL-FIRED PLANTS IN MALAYSIA

There is currently only one power plant in operation in Malaysia which utilises coal as fuel, namely TNB's Sultan Salahuddin Abdul Aziz Power Station at Kapar. The aggregate capacity of the Kapar Power Station is 2,420MW, out of which coal-fired capacity makes up 1,600MW. There are three other coal-fired power projects currently in the process of development, namely the 2,100MW plant developed by TNB Janamanjung Sdn. Bhd. at Manjung, Perak, the 2,100MW plant developed by SKS Ventures Sdn. Bhd. at Tanjung Bin, Johor and the 1,400 MW plant developed by Jimah Power Generation Sdn. Bhd. at Port Dickson, Negeri Sembilan. Of the three, the Manjung plant is at the most advanced stage of development. When all these plants are commissioned, the estimated annual coal requirement for these plants will come to more than 21 million tonnes.

TREND IN MALAYSIA

The fuel mix of plants in operation in Malaysia as at 2000 is as follows:

Fuel	Percentage
Oil	5.2
Coal	7.9
Gas	78.7
Hydro	8.0
Others	0.2

With the development of the Manjung, Jimah and Pulau Bunting coal plants, as well as the 2,400MW Bakun hydro plant in Sarawak, the dependency on gas plants will be reduced.

DEVELOPMENT OF COAL-FIRED GENERATION

The material set out below is in the context of electricity generation projects developed by independent power producers to sell electricity to utility companies under long term power purchase agreements structured on a despatchable, fuel pass-through and capacity/energy payments basis. Some of the issues raised, particularly EPC, operation and maintenance, regulatory, shareholders and land issues, will also be applicable to development of generation in a competitive market.

COMMON LEGAL ISSUES

Many of the legal issues arising in the development of electricity generation projects are applicable irrespective of the fuel used by such generation facilities. Such common legal issues, from the developer's viewpoint, include the following:

1. Project Documents

A set of project documents will need to be in place to facilitate the development of the generation project. These project documents will include the power purchase agreement, the engineering, procurement and construction agreement, the operation and maintenance agreement, the fuel supply agreement, water supply agreement and alternative fuel supply agreement.

Major legal issues which need to be addressed under each of the above project documents are:

A. Power Purchase Agreement ("PPA")

- *Term/duration of the PPA*: the term of the PPA should be set out in the PPA.
- *Sale and purchase obligations*: the PPA should set out clearly the utility's obligation to purchase and the IPP's obligation to sell test energy, net electrical output and availability.
- *Purchase price*: this is commercially the most critical portion of the PPA, which sets out the formulas which determine the price payable by the utility for test energy, net electrical output, availability and start-ups supplied or executed by the IPP pursuant to the PPA. Such formulas will require parties' agreement on tariff, heat rates and permitted outages issues.
- *Billing/payment*: the PPA should set out clearly the billing and payment procedures and time-frames.
- *Required/scheduled commercial operation date*: the PPA should set out the dates by which the generation units of facility are to achieve commercial operations.
- *Liquidated damages*: the parties should agree in clear terms the IPP's exposure to liquidated damages for delay in achieving the required/scheduled commercial operations date and abandonment of the project.
- *Maintenance reserve*: the PPA should set out any obligation of the IPP to establish and maintain a maintenance reserve to be utilised for the maintenance of the generation facility.
- *Specifications*: the utility and the IPP should agree on the specifications of the generation facility which the IPP plans to construct.
- *Despatching and declaration of availability*: the PPA should set out the procedures and parameters for despatching of the generation facility by the utility and declaration of availability by the IPP. IPP may require a minimum despatchable load, depending on the configuration and characteristics of the generation facility.
- *Testing*: the PPA will set out provisions on testing of the generation facility by the utility and the IPP, including testing procedure/protocal, and consequences of any failure by IPP to pass any such test.

- *Interconnection Facilities*: the PPA should have provisions on responsibilities to build the facilities required to evacuate power from the generation facility to the grid, including acquisition of rights-of-way to facilitate the same.
- *Fuel*: the PPA would specify the fuel and alternate fuel to be used by the generation facility.
- *Taxes and fines*: the PPA should have provisions on responsibility to bear taxes and fines arising from construction, ownership and operation and maintenance of the generation facility.
- *Environmental*: the PPA usually sets out the environmental standards which the generation facility is to comply with.
- *Insurance*: the PPA should set out the insurance policies and coverage relating to the generation facility to be secured by applicable party.
- *Force majeure*: the PPA should set out the events of force majeure which will excuse a party's non-performance of its obligations under the PPA. Issues which the parties need to address include payment obligations during the occurrence of a force majeure event and termination rights in the event of protracted force majeure event.
- *Default and termination*: the PPA should set out events and circumstances which amount to events of default of the utility and the IPP, which if not cured within the agreed cure period, will trigger termination rights of the other party. The utility may also have step-in rights in the event of default by the IPP.
- *Dispute resolution*: the PPA usually sets out the agreed mechanism to resolve disputes between the parties, which may include agreement to adopt arbitration under specified rules.
- *Change-in-law*: the PPA may contain provisions dealing with the consequences of any change-in-law which have a financial impact on the operation and maintenance of the generation facility, for example the parties may agree that the utility will compensate the IPP for any additional capital expenditure and/or operational expenditure necessitated by such change-in-law.
- *Choice of law*: the parties will select the governing law for the PPA.

B. Engineering, Procurement and Construction Agreement ("EPCA")

- *Contractor's Obligations*: the EPCA should set out the contractor's obligations relating to the design, manufacturing, engineering, construction, installation, testing, commissioning, completion and during the defects liability period, rectification of defects in the works. An issue which may arise in a coal-fired project, which site includes land to be reclaimed from the sea, is whether the contractor would bear responsibility for the land reclamation works.
- *Documentation and manuals*: the contractor should provide agreed number of copies of all drawings, specification, data sheets, diagrams, plans, samples and models required in connection with the detailed design of the generation facility as well as equipment and systems instructions for the start-up, operation and maintenance of the generation facility within agreed time limits.
- *Procurement*: the EPCA should specify the contractor's responsibilities for the supply of all plant and services, equipment, and materials required for the construction of the generation facility.

- *Labour and personnel*: the contractor should supply all labour and other personnel to construct the generation facility.
- *Import/export licences*: the EPCA should specify the party responsible for the procurement of the requisite import or export permits and prompt payment of customs and duties payable upon export of the plant from the economy of manufacture and/or importation of the plant into the economy where the generation facility is sited.
- *Interconnection facilities*: the EPCA may set out the contractor's obligations relating to the construction of the interconnection facilities.
- *Utilities*: the EPCA should set out the parties' obligations relating to the supply of and payment for electricity, water, sewage and other utilities, waste disposal services, chemicals, fuel and other consumables and storage therefor in sufficient quantities to enable the contractor to perform its obligations under the EPCA.
- *Personnel training*: the contractor is to provide training for the operating personnel of the generation facility in the operation and maintenance of the generation facility within agreed time periods.
- *Site access*: the EPCA should provide for access by the IPP to the generation facility site and if required by IPP, the manufacturing and fabricating premises of the contractor and all sub-contractors for the IPP to inspect work being performed and monitor compliance by the contractor and the subcontractors.
- *Programme and progress report*: the contractor should submit to IPP a project construction programme within agreed time and progress reports at agreed intervals, whether weekly and/or monthly.
- *Conditions of site*: there is usually a provision in the EPCA which deems the contractor to have inspected the site and satisfied itself as to the climatic, hydrological, geological, soil and general conditions of the site.
- *Unexpected site conditions*: the EPCA may have provisions providing for the consequences of the contractor encountering obstruction, condition, pollutant, contaminant, hazardous waste or material, or archaeological item on site which could not reasonably have been ascertained from data provided or could not have been expected or foreseen by an experienced contractor applying good industry practice.
- *Taxes, fees and duties*: the contractor is to bear all taxes and fees imposed on the contractor by reason of the EPCA and its performance of its obligations thereunder as well as all employment taxes and contributions imposed by law, trade union contracts with respect to compensation paid to its employees.
- *Royalties and licence fees*: the contractor is to pay all required royalties and licence fees and shall procure the appropriate licences for any patent rights, design copyright and other protected rights in or for any materials, methods, processes and systems used for the works.
- *Compliance with law*: the contractor should comply with all applicable laws.
- *Change in law*: the EPCA should provide for consequences arising from changes in law coming into effect after the effectiveness of the EPCA which was not imminent at the time of the execution of the EPCA and which will require a variation order to be issued, prevent or delay the contractor from or in the performance of its obligations.
- *Assignment*: the terms of the EPCA should allow the IPP to assign the EPCA to the lenders providing financing for the project.

- *Direct Agreement*: the contractor may be required, at the request of the IPP, to enter into a direct agreement with the lenders entitling the lenders to take over the EPCA from the IPP in the event of a default by the IPP under the financing arrangements if such default is not remedied within the agreed cure period.
- *Sub-contracting*: the EPCA may set out restrictions against subcontracting by the contractor of its obligations under the EPCA.
- *Contract price and payment*: the EPCA should set out the contract price, currency and nature thereof (for example lump sum, fixed price) and the payment schedule therefor. Conditions that need to be satisfied before payments are made are usually specified, including submission of application for payment by the contractor within agreed time frame and satisfaction of owner's representative that the contractor has properly performed the works and services for which payment is applied for.
- *Sureties*: the contractor is usually required to provide a performance bond for an amount, issued by an approved financial institution and in the form specified in the EPCA as security for the due performance by the contractor of its obligations under the EPCA.
- *Suspension of works*: the EPCA should set out the right of the IPP to suspend progress of the project, contractor's obligations during such suspension, allocation of risk relating to plant, provision for reimbursement of additional costs necessitated by such suspension, entitlement of contractor to payment of plant affected by suspension and resumption of work.
- *Defects before taking over*: the contractor should make good any defect arising before the works has been taken over by the IPP.
- *Variations*: the EPCA should set out the IPP's right to issue variation orders and the arrangements to be followed before the contractor is obliged to execute such variation orders, including agreement on the addition or deduction of the contract price, alteration of time for completion or scope of works, warranties and guarantees.
- *Start-up and performance tests*: the EPCA should contain provisions relating to notice for start-up, manner of start-up, timing and procedures for execution of performance tests,
- *Consequences of failure to pass performance tests*: the EPCA should set out the consequences of the contractor's failure to pass the performance tests set out in the EPCA.
- *Taking over*: the EPCA should set out procedures for taking over of the generation facility by the IPP from the contractor, including issuance of taking over certificate by the IPP.
- *Time for completion*: the EPCA should set out the contractor's obligation to complete the works and pass the performance tests within a specified time for completion.
- *Extension of time for completion*: the EPCA should set out the circumstances and grounds which would entitle the contractor to an extension of the time for completion.
- *Delay in completion*: the EPCA should set out the consequences of the contractor's failure to complete the works within the specified time for completion, which could take the form of deduction from contract price according to specified deduction formula or termination of the EPCA in the event of prolonged delay.

- *Defects liability*: the EPCA should set out the contractor's obligations to make good defects appearing during the specified defects liability period and provisions extending the defects liability period in such event.
- *Latent defects*: the EPCA may set out provisions relating to contractor's obligations to make good latent defects appearing within specified period.
- *Limitation of liability*: there is usually provision in the EPCA which limits the contractor's liability under the EPCA to the contract price or a percentage thereof and excludes liability for consequential damage.
- *Representations and warranties*: the EPCA will set out detailed representations and warranties by the contractor relating to fitness for purpose, performance of its obligations, quality of plant and workmanship, compliance of works with performance standards, applicable laws and design documents, non-infringement of patent, trademark, copyright and generation facility meeting guaranteed performance criteria.
- *Force majeure*: the EPCA should set out the events of force majeure which will suspend a party's performance of its obligations under the EPCA. Detail which the parties need to consider and agree on are procedures for calling force majeure, termination rights in the event of protracted force majeure event and payment obligations upon such termination.
- *Insurance*: the EPCA should set out the insurance policies and coverage relating to the generation facility to be secured by applicable party.
- *Default and termination*: the EPCA should set out events and circumstances which amount to an event of default of the contractor and the IPP, which if not cured within the agreed cure period, will trigger termination rights of the other party, as well as payment upon such termination and valuation thereof.
- *Termination for IPP's convenience*: the EPCA may provide for the right of the IPP to terminate the EPCA upon notice, payment upon such termination and valuation thereof.
- *Governing law*: the parties will select the governing law for the EPCA.
- *Dispute resolution*: the EPCA usually sets out the agreed mechanism to resolve disputes between the parties, which may include agreement to refer dispute to specified experts or adoption of arbitration under specified rules.

C. Operation and Maintenance Agreement ("OMA")

- *Term*: the term of appointment of the operator should be set out in the OMA.
- *Obligations of the IPP*: IPP should:

  provide operator with full access to the site in order for operator to perform its operating functions under to the OMA;

  arrange for supply of electricity, water, telecommunication services, sewage and other utilities, waster disposal services, chemicals, fuel and other consumables, office and other administrative facilities, messing and associated accommodations, workshops, storage space, instruments and tools necessary for the operator to perform its operating functions;

  provide operator with copies of the PPA, operation and maintenance manual and all designs, drawings, data sheets, diagrams, plans and specifications of the generation facility.

- *Training*: IPP to ensure that the EPC contractor provides training for the operating staff employed by the operator for the operation and maintenance of the generation facility as required under the EPCA.
- *Operating duties and responsibilities*: the OMA should set out the detailed duties and responsibilities of the operator in the mobilisation, maintenance, operation, testing and inspection of the generation facility, such duties and responsibilities to be performed in compliance with agreed standards, applicable laws, applicable provisions in the other project agreements and relevant supplier and manufacturer's recommendations.
- *Personnel*: Contractor should provide suitably qualified, experienced and competent personnel required for the operation and maintenance of the generation facility.
- *Procurement*: the OMA should set out operator's obligations to procure all replacement and spare parts, consumables and services required for the operation and maintenance of the generation facility and arrangements for approval by the IPP prior to operator entering into procurement contracts.
- *Increased costs*: the OMA may provide for reimbursement of operator for increased costs or decreased revenues in connection with its operating functions due to changes-in-law.
- *Plans*: Operator should provide IPP with mobilisation and annual plans in the agreed form which includes operator's proposed budget and maintenance programme. Mechanism for IPP to approve such plans and periodic review of same should also be provided for.
- *Budget*: the OMA should set out operator's duty to comply with the agreed annual budget with mechanism for IPP's approval of expenditure exceeding the agreed annual budget, with allowances made for emergency situations.
- *Effect of excess expenditure*: the OMA should provide for the consequences of operator exceeding the expenditure approved by IPP in the agreed annual budget, which may include termination of the OMA.
- *Fees*: the OMA should set out mobilisation, operation and/or management fees payable to operator.
- *Indemnity*: the OMA should provide for cross-indemnities by IPP and operator relating to liabilities, damages, losses and injury to their employees as well as third parties. The operator should also indemnify IPP against liabilities arising from non-compliance by operator of applicable laws.
- *Limitation of liability*: the OMA usually sets out the aggregate liability of the IPP and operator under the OMA.
- *Security*: the operator is usually required to provide a performance bond for an amount, issued by an approved financial institution and in the form specified in the OMA as security for the due performance by the operator of its obligations under the OMA.
- *Insurance*: the OMA should set out the insurance policies and coverage relating to the generation facility to be secured by applicable party.

- *Force majeure*: the OMA should set out the events of force majeure which will suspend a party's performance of its obligations under the OMA. Detail which the parties need to consider and agree on are procedures for calling force majeure, operator's obligations during occurrence of force majeure events, termination rights in the event of protracted force majeure event and payment obligations upon such termination.
- *Termination*: the OMA should set out events which would entitle IPP to terminate the OMA, which may include operator's poor performance, operator's willful misconduct or insolvency and termination of other project agreements. Provisions for termination by operator should also be set out.
- *Governing law*: the parties will select the governing law for the OMA.
- *Dispute resolution*: the OMA usually sets out the agreed mechanism to resolve disputes between the parties, which may include agreement to refer dispute to specified experts and/or adoption of arbitration under specified rules.

D. Fuel Supply Agreement

To be addressed in part 2 of section titled "Issues Specific to Coal-Fired Generation".

2. Other Project Agreements

These will include the water supply agreement and alternative fuel supply agreement through which the IPP will secure the supply of water and alternative or back-up fuel to meet the requirements of the operation of the generation facility.

3. Concession

Depending on the regulatory environment in which the generation facility is developed and the structure of the PPA, the IPP may require the grant of a concession from the relevant government authority to develop the generation facility, whether in the form of a concession/implementation agreement or letter of award.

4. Regulatory Compliance

There will usually be regulatory requirements for the IPP to obtain, inter alia:

- approval of the environmental impact assessment report for the project;
- licence to generate and sell electricity;
- permits and authorisations for pre-construction, construction and operation phases of the project from relevant government departments and local authorities.

5. Shareholders Issues

If there is more than 1 shareholder in the IPP company, shareholders' issues will need to be addressed and set out in a shareholders or joint venture agreement. Major issues will include issues relating to shareholdings, directorships, funding obligations, transfer of shares and shareholders roles in development of the project.

6. Land Issues

Land issues which will arise will depend on whether the site is to be purchased or leased. If part of the site is to be reclaimed from the sea, issue will be form of authorisation required for IPP to execute the reclamation works.

7. Financing Documentation

The financing documentation will need to be in place to facilitate financing for the development of the project.

ISSUES SPECIFIC TO COAL-FIRED GENERATION

1. PPA

An issue specific to coal-fired generation which usually need to be addressed in the Power Purchase Agreements is that of despatch forecast. Due to the lead time in ordering coal required for the IPP to meet its generation and stock-pile obligations under the PPA, the utility should be obliged to provide a non-binding despatch forecast to the IPP within agreed time-frame which will enable the IPP to order coal estimated to be required within the ordering time-table established in the coal supply agreement.

2. Coal Supply Agreement between IPP and coal supplier ("CSA")

Most of the coal-fired generation specific issues which need to be addressed in the CSA are driven by security of supply and bankability considerations. The crucial issues are:

- *Adequacy of reserves*: IPP requires assurance, in the form of requirement for supplier to maintain reserves, warranties by the supplier and IPP termination rights upon default by supplier, that the supplier-producer has sufficient reserves of coal of the agreed quality to supply the contracted quantity for the duration of the term of the CSA.
- *Term*: The term of the CSA is to be set out. Such term may be coterminous with the term of the PPA. The IPP may desire flexibility in its coal supply arrangements and opt for shorter term coal supply contracts. The financiers will invariably require that the term of the CSA to be at least for the duration of the financing plus 1 or 2 years).
- *Delivery and shipping schedules:* The CSA should set out the arrangements for the determination of the delivery and shipping schedules for shipments ordered.
- *Coal Ordering*: Procedures and time frame for IPP to make coal orders ought to be set out in the CSA.
- *Coal Price*: The CSA should set out the mechanism/formula to determine the price payable for each shipment of coal delivered pursuant to the CSA.
- *Billing and payment*: The CSA should set out the billing and payment arrangements, including the documents and certificates which are required to be tendered to the IPP.
- *Transportation arrangements*: The CSA should state whether the supply arrangements are CIF or FOB. If CIF, IPP ought to be satisfied by the supplier, by way of right to approve transportation contracts, that transportation arrangements which are sufficient to ensure the timely arrival of coal shipments ordered are in place. Considerations of shipowners standing, insurance coverage, specifications (including age) of vessels to be used will be relevant.

- *Ability to reduce amount ordered if despatch levels goes down*: As the despatch forecasts, which form the basis of coal orders by IPP, is unlikely to be binding on the utility, IPP should have the ability to cancel shipments ordered within agreed time frame to avoid situation under which the IPP is obliged to accept shipments which it does not need and have no storage space for.
- *Obligation of supplier to deliver quantity ordered on time*: As the IPP is likely to be exposed to potentially severe penalties under the PPA if it is unable to generate when despatched, the IPP must ensure that it is not in such situation due to shortage of coal. IPP is usually also under an obligation in the PPA to maintain its coal stock-pile at a specified level. Thus, it is critical that the supplier delivers coal shipments ordered within agreed delivery windows.
- *IPP's rights if supplier fails to deliver shipments ordered on time*: In the event the supplier fails, or is anticipated to be unable, to deliver shipments ordered on time and if the coal supply arrangement with the supplier is an exclusive arrangement, the IPP should have the right under the CSA to purchase coal from alternative sources in such circumstances. In the event of persistent default by the supplier to timely deliver ordered coal shipments, the IPP should be entitled to terminate the CSA with the defaulting supplier.
- *Loading port congestion*: The allocation of risk of congestion at the loading port will be an issue to be agreed between the IPP and the supplier, as such allocation will have a bearing on the IPP's right to delay penalties/remedies against the supplier if a coal shipment is delayed by congestion at the loading port.
- *Adequacy of insurance*: IPP will need to ensure that there is sufficient insurance coverage which, depending on the nature of each project, may include marine liability insurance, public liability insurance and/or marine cargo insurance. Marine liability insurance may cover the risks in connection with the disabling or sinking of any vessel in the discharge port or access channels thereto.
- *Right of IPP to divert shipment and/or to sell shipment*: IPP should have the right to divert and/or sell shipments of coal which has been ordered but is no longer required and which IPP is unable to cancel.
- *Quality specifications*: The CSA should set out the quality of coal to be delivered by the supplier to the IPP, with agreed tolerance levels.
- *Right to reject*: IPP should have the right to reject shipments of coal which does not meet the accepted tolerance levels of the agreed quality specifications.
- *Time frame to reject*: The CSA should also set out a time frame within which the right of rejection by the IPP is to be exercised. The rejection period should only commence upon receipt of the shipment analysis by the IPP.
- *Termination of supplier*: The CSA should set out the events of default which would entitle IPP to terminate the CSA. Such events of default would generally include persistent deliveries of rejectable or rejected shipments, loss of supplier's concession/mining rights to mine, sell and export the coal which the supplier has committed to supply to the IPP during the term of the CSA and bankruptcy of the supplier

- *Adjustments*: The CSA should contain detailed provisions on adjustments to the coal price payable by IPP to the supplier for coal which does not comply with the agreed quality specifications. Such provisions should set out the adjustment parameters, for example calorific value, moisture, ash and sulfur content as well as adjustment formulas.
- *Sampling/testing*: The CSA should contain detailed provisions setting out provisions on appointment of inspection company, marine surveyors and umpire laboratories and the procedures and standards to be applied in the sampling of the coal supplied to the IPP.
- *Certificates*: The CSA will specify certificates to be supplied by supplier and/or issued for each shipment of coal supplied pursuant to the CSA, including certificates of origin, sampling & analysis, umpire analysis, weight and hold cleanliness.
- *Representations & warranties*: Representations & warranties by the supplier in the CSA should include particularly representations and warranties that:

  the supplier-producer has sufficient measured reserves and recoverable product tonnes of coal meeting the agreed coal quality specifications, and the entitlement to mine, sell and export the same, to enable the supplier to supply coal to the IPP that is sufficient to meet the supplier's coal delivery obligations under the CSA during the term of the CSA;

  all necessary arrangements have been made by the supplier for inland transportation by land and/or barge of coal to the loading ports;

  the supplier has not contracted to sell to others from its measured reserves or recoverable product tonnes in such quantity as to jeopardise its ability to deliver the quantity of coal that the supplier has contracted to deliver to IPP under the CSA.
- *Supply plan*: The supplier should produce a supply plan for the adequate and reliable supply of coal to satisfy the IPP's coal requirements during the term of the CSA.
- *Security*: the supplier is usually required to provide a performance bond for an amount, issued by an approved financial institution and in the form specified in the CSA as security for the due performance by the supplier of its obligations under the CSA.
- *Direct Agreement*: the supplier may be required, at the request of the IPP, to enter into a direct agreement with the lenders entitling the lenders to take over the CSA from the IPP in the event of a default by the IPP under the financing arrangements if such default is not remedied with the agreed cure period.
- *Reports*: The supplier is usually required to provide regular reports, on annual and/or quarterly basis, on relevant developments relating to the supplier, its mine and loading port.
- *Governing law*: the parties will select the governing law for the CSA.
- *Dispute resolution*: the CSA usually sets out the agreed mechanism to resolve disputes between the parties, which may include agreement to refer dispute to specified experts and/or adoption of arbitration under specified rules.
- *Force majeure*: the CSA should set out the events of force majeure which will suspend a party's performance of its obligations under the CSA.

3. Maritime Issues

The IPP will need to ascertain and obtain the approvals required to operate its coal receiving jetty. Approvals are likely to be required from the maritime, immigration and custom and excise departments.

DEVELOPMENT OF COAL-FIRED GENERATION – GOVERNMENT PERSPECTIVE

Governments which desires to promote the development of coal-fired generation may provide incentives for development of coal-fired generation, for example by granting of preferential tax treatment for such development. The government may also promote coal-fired generation by granting concessions or generation permits for coal-fired generation only.

End

DEVELOPING COAL-FIRED GENERATION : A LEGAL PERSPECTIVE

LEONG KWOK YAN
Zaid Ibrahim & Co.
Malaysia

DEREGULATION IN MALAYSIA

Current Structure of the Electricity Supply Industry in Malaysia

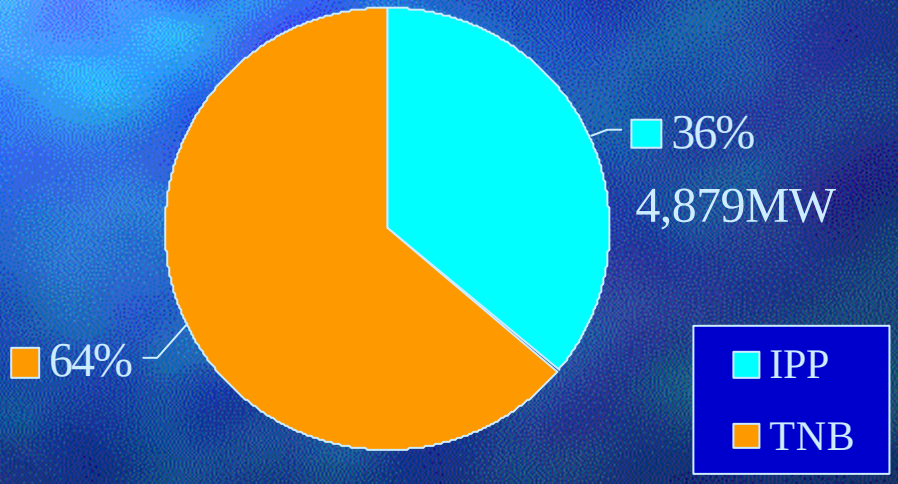
Electricity Utilities

TNB	SESB	SESCO
Peninsular Malaysia	Sabah	Sarawak

IPPs

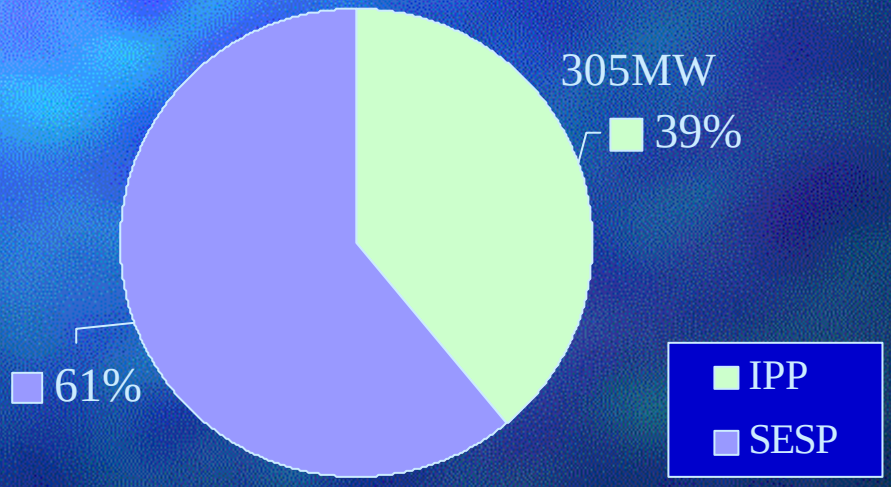
Peninsular Malaysia	7
Sabah	5
Sarawak	2

The 7 IPPs operating in Peninsular Malaysia contribute approximately 4,879MW (36%) of the total grid connected capacity of 13,405MW in the Peninsular Malaysia



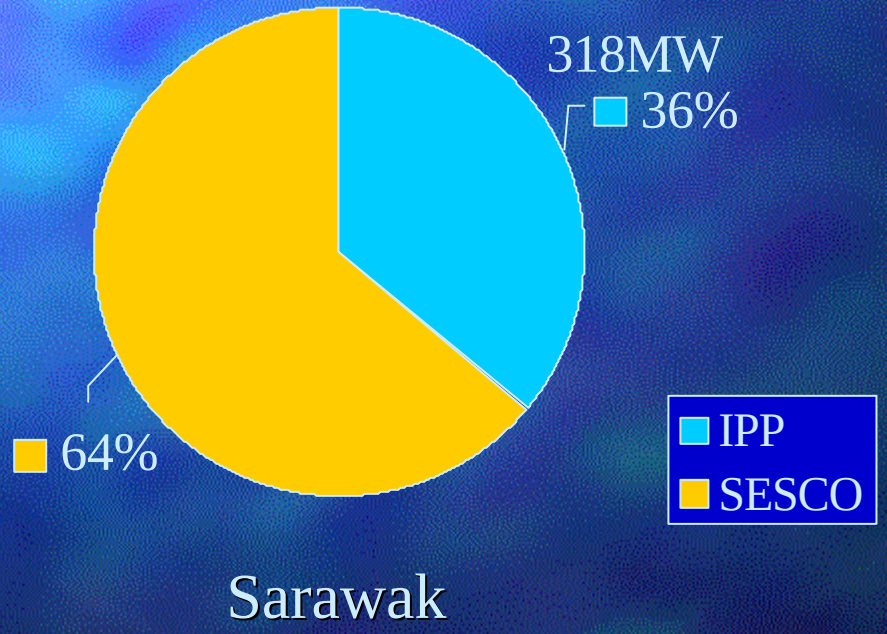
Peninsular Malaysia

5 IPPs in Sabah contribute 305MW (39%) out of the total 777MW installed capacity in Sabah



Sabah

2 IPPs in Sarawak contribute 318MW (36%) of the installed capacity of 872MW in the state.



Electricity Industry Restructuring

- Improving efficiency
- Providing greater transparency
- Promoting competition

An Energy Commission has been established pursuant to the Energy Commission Act, 2001 as the regulatory body for the electricity and gas supply industries.

COAL-FIRED PLANTS IN MALAYSIA

In operation : TNB's Sultan Salahuddin Abdul Aziz Power Station at Kapar. The aggregate capacity of the Kapar Power Station is 2,420MW, out of which coal-fired capacity makes up 1,600MW.

In the process of development:

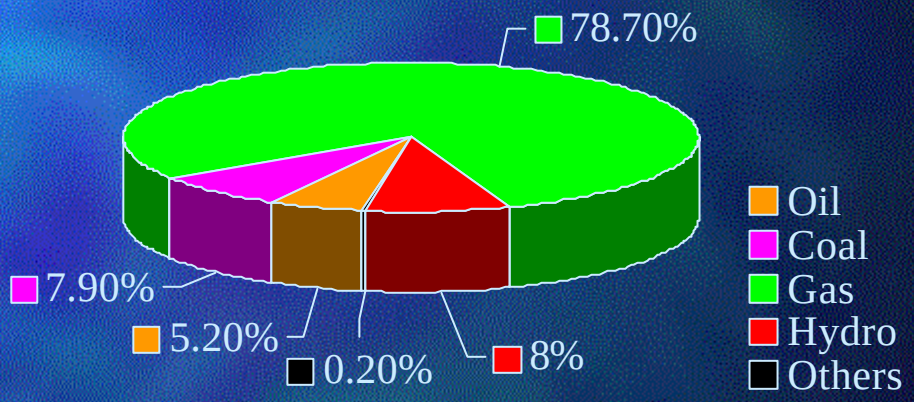
- 2,100MW plant developed by TNB Janamanjung Sdn. Bhd. at Manjung, Perak,
- 2,100MW plant developed by SKS Ventures Sdn. Bhd. at Tanjung Bin, Johor
- 1,400 MW plant developed by Jimah Power Generation Sdn. Bhd. at Port Dickson, Negeri Sembilan.

When all these plants are commissioned, the estimated annual coal requirement for these plants will come to more than 21 million tonnes.

TREND IN MALAYSIA

The fuel mix of plants in operation in Malaysia as at 2000 is as follows:

Fuel	Percentage
Oil	5.2
Coal	7.9
Gas	78.7
Hydro	8.0
Others	0.2



PROJECT DOCUMENTS

Project documents facilitating development of a power generation project include:

- power purchase agreement
- engineering, procurement and construction agreement
- operation and maintenance agreement
- fuel supply agreement
- water supply agreement
- alternative fuel supply agreement

Power Purchase Agreement ("PPA")

- *Term/duration of the PPA*
- *Sale and purchase obligations*
- ***Purchase price***
- *Billing/payment*
- ***Required/scheduled commercial operation date***
- ***Liquidated damages***
- *Maintenance reserve*
- *Specifications*

Power Purchase Agreement ("PPA")

- ***Despatching and declaration of availability***
- *Testing*
- *Interconnection Facilities*
- *Fuel*
- *Taxes and fines*
- *Environmental*
- *Insurance*
- *Force majeure*

Power Purchase Agreement ("PPA")

- ***Default and termination***
- *Dispute resolution*
- *Change-in-law*
- *Choice of law*

Engineering, Procurement and Construction Agreement ("EPCA")

- ***Contractor's Obligations***
- *Documentation and manuals*
- ***Procurement***
- *Labour and personnel*
- ***Import/export licences***
- *Interconnection facilities*
- *Utilities*
- *Personnel training*
- *Site access*
- *Programme and progress report*

Engineering, Procurement and Construction Agreement ("EPCA")

- *Conditions of site*
- *Unexpected site conditions*
- *Taxes, fees and duties*
- *Royalties and licence fees*
- *Compliance with law*
- *Change in law*
- *Assignment*
- ***Direct Agreement***
- *Sub-contracting*

Engineering, Procurement and Construction Agreement ("EPCA")

- ***Contract price and payment***
- *Sureties*
- *Suspension of works*
- *Defects before taking over*
- ***Variations***
- *Start-up and performance tests*
- *Consequences of failure to pass performance tests*
- *Taking over*
- ***Time for completion***

Engineering, Procurement and Construction Agreement ("EPCA")

- *Extension of time for completion*
- *Delay in completion*
- *Defects liability*
- *Latent defects*
- ***Limitation of liability***
- *Representations and warranties*
- *Force majeure*
- *Insurance*

Engineering, Procurement and Construction Agreement ("EPCA")

- ***Default and termination***
- *Termination for IPP's convenience*
- *Governing law*
- *Dispute resolution*

Operation and Maintenance Agreement ("OMA")

- *Term*
- *Obligations of the IPP*
- *Training*
- ***Operating duties and responsibilities***
- *Personnel*
- ***Procurement***
- *Increased costs*
- ***Plans***
- *Budget*
- *Effect of excess expenditure*

Operation and Maintenance Agreement ("OMA")

- *Fees*
- *Indemnity*
- *Limitation of liability*
- *Security*
- *Insurance*
- *Force majeure*
- *Termination*
- *Governing law*
- *Dispute resolution*

Concession

- Concession Agreement
- Implementation Agreement
- Letter of Award

Regulatory Compliance

There will usually be regulatory requirements for the IPP to obtain, inter alia:

- approval of the environmental impact assessment report for the project;
- licence to generate and sell electricity;
- permits and authorisations for pre-construction, construction and operation phases of the project.

Shareholders Issues

- Shareholders or joint venture agreement.
- Major issues will include issues relating to:
  - Shareholdings
  - Directorships
  - Funding obligations
  - Transfer of shares
  - Shareholders roles in development of the project

Land Issues

- Purchase or lease
- Authorisation reclamation works

Issues Specific to Coal-Fired Generation

PPA

- Despatch forecast

Coal Supply Agreement between IPP and Coal Supplier ("CSA")

- Security of supply
- Bankability considerations

The crucial issues are:

- ***Adequacy of reserves***: sufficient reserves of coal of the agreed quality to supply the contracted quantity for the duration of the term of the CSA.
- ***Term***: may be coterminous with the term of the PPA. or shorter term coal supply contracts. The financiers will invariably require that the term of the CSA to be at least for the duration of the financing plus 1 or 2 years).
- *Delivery and shipping schedules:* arrangements for the determination of the delivery and shipping schedules for shipments ordered.

- *Coal Ordering*: Procedures and time frame for IPP to make coal orders
- *Coal Price*: mechanism/formula to determine the price payable for each shipment of coal delivered
- *Billing and payment*: billing and payment arrangements, including the documents and certificates which are required to be tendered
- ***Transportation arrangements***: whether CIF or FOB.
- ***Ability to reduce amount ordered if despatch levels goes down:*** ability to cancel shipments ordered within agreed time frame

- ***Obligation of supplier to deliver quantity ordered on time***
- ***IPP's rights if supplier fails to deliver shipments ordered on time***: Persistent default by the supplier to timely deliver ordered coal shipments, termination of the CSA.
- *Loading port congestion*: allocation of risk of loading port congestion.
- ***Adequacy of insurance***: include marine liability insurance, public liability insurance and/or marine cargo insurance.
- ***Right of IPP to divert shipment and/or to sell shipment***: right to divert and/or sell shipments of coal

- ***Quality specifications***: quality of coal to be delivered, with agreed tolerance levels
- ***Right to reject***: right to reject shipments of coal not meeting accepted tolerance levels of the agreed quality specifications.
- *Time frame to reject*: time frame to exercise right of rejection
- ***Termination of supplier***: events of default triggering termination

- ***Adjustments***: adjustments to coal price for coal not complying with agreed quality specifications.
- *Sampling/testing*: appointment of inspection company, marine surveyors and umpire laboratories and the procedures and standards to be applied in the sampling of the coal supplied.
- ***Certificates***: certificates to be supplied by supplier and/or issued for each shipment of coal supplied.
- *Representations & warranties*:

- sufficient measured reserves and recoverable product tonnes of coal meeting the agreed coal quality specifications, and the entitlement to mine, sell and export the same, to enable the supplier to supply coal to the IPP that is sufficient to meet the supplier's coal delivery obligations under the CSA during the term of the CSA;
- arrangements for inland transportation by land and/or barge of coal to the loading ports;

- ***Supply plan***: for the adequate and reliable supply of coal to satisfy coal requirements during the term of the CSA.
- *Security*: performance bond as security for the due performance by the supplier of its obligations under the CSA.
- ***Direct Agreement***: with the lenders entitling the lenders to take over the CSA from the IPP
- *Reports*: regular reports, on annual and/or quarterly basis, on relevant developments relating to the supplier, its mine and loading port.

- *Governing law*
- *Dispute resolution*: agreed mechanism to resolve disputes between the parties
- *Force majeure*: events which will suspend a party's performance of its obligations under the CSA.

Maritime Issues

Approvals required to operate its coal receiving jetty, including from the maritime, immigration and custom and excise departments.

Development of Coal-Fired Generation – Government Perspective

Incentives for development of coal-fired generation, for example by granting of preferential tax treatment for such development.

Granting concessions or generation permits for coal-fired generation only.